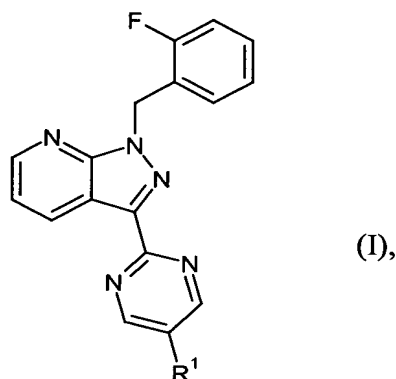


Claims

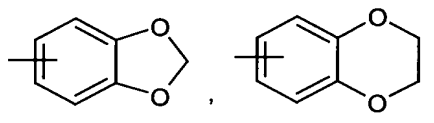
1. A compound of the formula



in which

R^1 is C_6 - C_{10} -aryl or 5- to 10-membered heteroaryl which are optionally substituted by radicals selected from the group of halogen, cyano, C_1 - C_6 -alkoxy, C_1 - C_6 -alkoxycarbonyl, trifluoromethyl, 2,2,2-trifluoroethyl, trifluoromethoxy, C_1 - C_4 -alkyl and C_3 - C_8 -cycloalkyl, where C_1 - C_4 -alkyl is optionally substituted by hydroxy,

or a group of the formula



or

4- to 12-membered heterocyclyl which is bonded via a nitrogen atom and which is optionally substituted by radicals selected from the group of $-NHR^2$, halogen, C_1 - C_6 -alkoxycarbonyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkyl and oxo, where C_1 - C_6 -alkyl is optionally substituted by hydroxy, and

R^2 is C_1 - C_4 -alkyl,

or

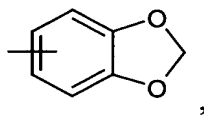
C_4 - C_8 -cycloalkyl which is substituted in the position adjacent to the point of attachment by oxo, and which is optionally substituted by C_1 - C_4 -alkyl,

and the salts, solvates and/or solvates of the salts thereof.

2. The compound as claimed in claim 1, where

R^1 is phenyl or 5- to 6-membered heteroaryl, which are optionally substituted by radicals selected from the group of fluorine, chlorine, cyano, C_1 - C_3 -alkoxycarbonyl, C_1 - C_3 -alkoxy, trifluoromethyl, 2,2,2-trifluoroethyl, trifluoromethoxy, C_1 - C_3 -alkyl and C_3 - C_5 -cycloalkyl, where C_1 - C_3 -alkyl is optionally substituted by hydroxy,

or a group of the formula



or

4- to 12-membered heterocyclyl which is bonded via a nitrogen atom and which is optionally substituted by radicals selected from the group of $-NHR^2$, fluorine, chlorine, C_1 - C_3 -alkyl, C_1 - C_3 -alkoxycarbonyl, C_1 - C_3 -alkoxy and oxo, where C_1 - C_3 -alkyl is optionally substituted by hydroxy,

and

R^2 is C_1 - C_3 -alkyl,

5 or

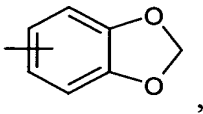
cyclohexyl which is substituted in the position adjacent to the point of attachment by oxo, and which is optionally substituted by C_1 - C_2 -alkyl,

10 and the salts, solvates and/or solvates of the salts thereof.

3. The compound as claimed in claim 1 or 2, where

15 R^1 is phenyl or pyridyl, pyrazolyl, isoxazolyl, which are optionally substituted by radicals selected from the group of fluorine, chlorine, cyano, methoxy, methoxycarbonyl, ethoxycarbonyl, trifluoromethyl, 2,2,2-trifluoroethyl, trifluoromethoxy, methyl, cyclopropyl or hydroxymethyl,

20 or a group of the formula



or

25 4- to 12-membered heterocyclyl which is bonded via a nitrogen atom and which is optionally substituted by radicals selected from the group of $-NHR^2$, fluorine, chlorine, C_1 - C_3 -alkyl, methoxy, ethoxy, hydroxymethyl and oxo, and

- 88 -

R^2 is methyl,

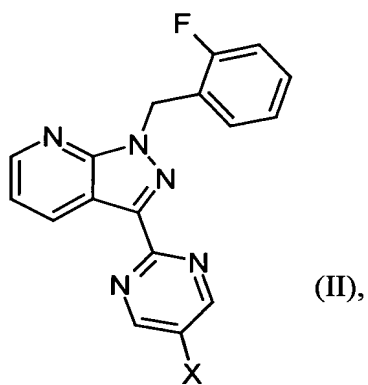
or

5 cyclohexyl which is substituted in the position adjacent to the point of attachment by oxo, and which is optionally substituted by methyl,

and the salts, solvates and/or solvates of the salts thereof.

10 4. A process for preparing compounds of the formula (IV), (VI) and (VII), characterized in that either

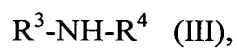
[A] compounds of the formula



15 in which X is chlorine, bromine, iodine, preferably bromine,

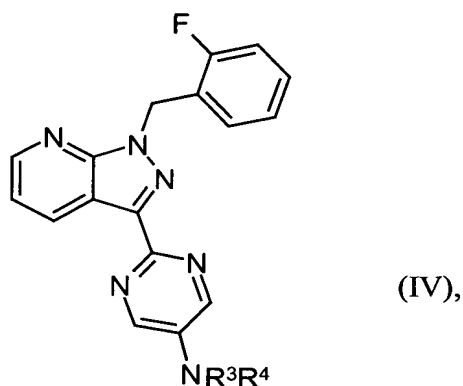
are reacted with a compound of the formula

20



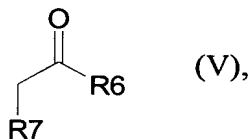
in which

R^3 , R^4 together with the nitrogen atom to which they are bonded are a 4- to 12-membered heterocyclyl which is optionally substituted by radicals selected from the group of $-NHR^2$, halogen, C_1 - C_6 -alkoxycarbonyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkyl and oxo, where C_1 - C_6 -alkyl is optionally substituted by $-OR^5$, and R^2 has the meaning indicated above, R^5 is a hydroxy protective group in an inert solvent in the presence of a base and of a transition metal catalyst to give compounds of the formula



or

[B] compounds of the formula (II) are reacted with a compound of the formula

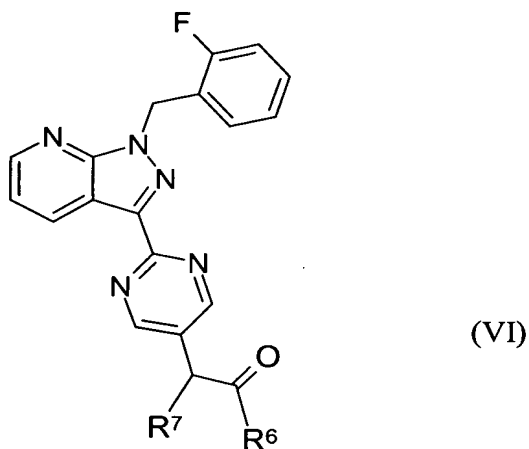


in which

R^6 is cycloalkyl, R^7 is hydrogen or R^6 and R^7 together with the CH_2CO group to which they are bonded are cycloalkyl which may be substituted by C_1 - C_6 -alkyl radicals, in an inert solvent in the presence

- 90 -

of a base and of a transition metal catalyst to give compounds of the formula

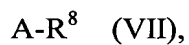


5

or

[C] compounds of the formula (II) are reacted with a compound of the formula

10



in which

15

A is $-B(OR^9)_2$ or $-\text{Sn}(C_1-C_6\text{-alkyl})_3$, where

R^9 is hydrogen, C_1-C_6 -alkyl or two radicals together form a $-\text{CH}_2\text{CH}_2-$ or $-(\text{CH}_3)_2\text{C}-\text{C}(\text{CH}_3)_2-$ bridge,

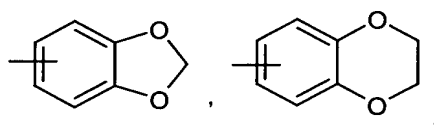
20

and

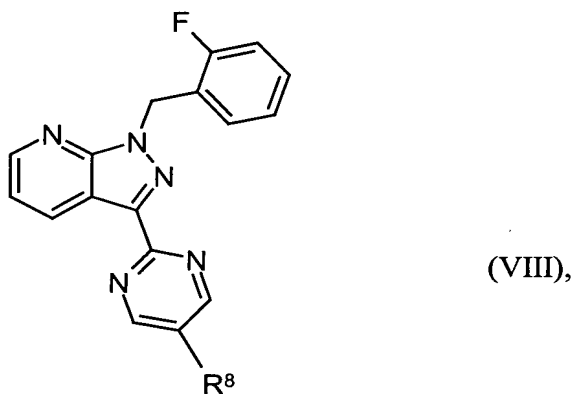
R^8 is C_6-C_{10} -aryl or 5- to 10-membered heteroaryl which are optionally substituted by radicals selected from the group of halogen, cyano,

C₁-C₆-alkoxy, C₁-C₆-alkoxycarbonyl, trifluoromethyl, 2,2,2-trifluoroethyl, trifluoromethoxy, C₁-C₄-alkyl and C₃-C₈-cycloalkyl, where C₁-C₄-alkyl is optionally substituted by hydroxy,

5 or a group of the formula



10 in an inert solvent in the presence of a base and of a transition metal catalyst to give compounds of the formula



15 and the resulting compounds of the formula (IV), (VI) and (VIII) are optionally reacted with the appropriate (i) solvents and/or (ii) bases or acids to give the solvates, salts or solvates of the salts thereof.

5. A compound of the invention as claimed in any of claims 1 to 3 for the treatment and/or prophylaxis of diseases.

6. A medicament comprising at least one of the compounds as claimed in any of claims 1 to 3 mixed together with at least one pharmaceutically acceptable, essentially nontoxic carrier or excipient.
- 5 7. The use of compounds as claimed in any of claims 1 to 3 for producing a medicament for the treatment and/or prophylaxis of central nervous system diseases.
- 10 8. The use of compounds as claimed in any of claims 1 to 3 for producing a medicament for the treatment and/or prophylaxis of disorders of perception, concentration, learning and/or memory.
- 15 9. The medicament as claimed in claim 6 for the treatment and/or prophylaxis of central nervous system diseases.
- 10 10. The medicament as claimed in claim 6 for the treatment and/or prophylaxis of disorders of perception, concentration, learning and/or memory.
- 20 11. A method for controlling disorders of perception, concentration, learning and/or memory in humans or animals by administering an effective amount of the compounds from claims 1 to 3.